ASCE 1977

COMBINED INDEX

AMERICAN SOCIETY OF CIVIL ENGINEERS FOUNDED 1852

ASCE 1977

Journals (Proceedings)
Civil Engineering,
Transactions,
Manuals and Reports,
and
Special Publications

$5.00 (net)

INDEX TO 1977 ASCE PUBLICATIONS

FOREWORD

The 1977 index, which provides a guide to information published by ASCE during 1977, combines material appearing in the Journals (Proceedings Vol. 103), CIVIL ENGINEERING (Vol. 47), Transactions (Vol. 142), Manuals and Reports, and Special Publications.

The user will find all articles and papers dealing with specific subject areas listed under one or more appropriate subject headings suggested by the content and application of the paper. The Engineers Joint Council "Thesaurus of Engineering Terms" has been used as the primary source of index terms. The Water Resources Thesaurus of the U.S. Department of the Interior and the Micro-Thesaurus compiled by the Soil Mechanics and Foundations Division of ASCE were also used.

The Index can be used in conjunction with the information-retrieval cards printed in the front of each Journal and to the rear of CIVIL ENGINEERING. The bold key words on the information-retrieval cards are the words used as index terms in the 1977 Index.

The name index contains entries indexed under the names of author, co-authors, discussers, chairmen of committees preparing reports, and deceased members whose memoirs appeared in Transactions.

In the name index, the entry for a Proceedings Paper (under the first name if more than one author) is supplemented by information concerning the discussion, closure, and Transactions digest, if applicable. To find what discussion, if any, there has been for a Proceedings Paper located in the subject index, the reader looks under the entry for the first-named author in the name index. When discussion of a paper from a prior year is published, the original entry is repeated. Discussion over a period of time can be traced until the closure to the paper is located.

When the paper appears in Transactions, the complete entry including original paper, discussion, closure, errata (if applicable), and Transactions citation appears in the name index.

Typical abbreviations used herein are:

Dsc for discussion
Clo for closing discussion
Corr for corrections
Err for errata

Chmn for Chairman of a committee submitting a report
TR for Transactions
TN for Technical Note

Items indexed from ASCE Special Publications have the following symbols in the references:

1. UT-76—Urban Transportation Efficiency, Specialty Conference of the Urban Transportation Division, July 26-27, 1976
2. CE15—Proceedings of the Fifteenth Conference on Coastal Engineering, 1976
3. PAC77—Specialty Conference on Ethics, Professionalism and Maintaining Competence, March 10-11, 1977, Columbus, Ohio
4. WW77A—Ports '77. Specialty Conference of the Waterway, Port, Coastal and Ocean Division, March 9-11, 1977, Long Beach, Calif.
5. ETH75—Conference on Engineering Ethics, May 18-19, 1975, Baltimore, Md.
6. PROD—The Civil Engineer's Role in Productivity in the Construction Industry, Vol. 2, 1976
7. RM16—Design Methods in Rock Mechanics, 16th Symposium on Rock Mechanics, September 22-24, 1975, Minneapolis, Minn.
8. GT77—Geotechnical Practice for Disposal of Solid Waste Materials, Specialty Conference of the Geotechnical Engineering Division, June 13-15, 1977, Ann Arbor, Mich.
9. GTAW—Award-Winning ASCE Papers in Geotechnical Engineering, 1950-1959, 1977
10. EM77—Advances in Civil Engineering Through Engineering Mechanics, 2nd Annual Engineering Mechanics Specialty Conference, North Carolina State Univ., May 23-25, 1977, Raleigh, N.C.
11. EFLA—Land Application of Residual Materials, Engineering Foundation Conference, September 26-Oct. 1, 1976, Easton, Md.
12. GT76—Rock Engineering for Foundation and Slopes, Specialty Conference of the Geotechnical Engineering Division, Boulder, Colo., August 16-18, 1976, Vol. II.
13. EFSGS—Shotcrete for Ground Support, Engineering Foundation Conference, October 4-8, 1976, Easton, Md.
14. IR77—Water Management for Irrigation and Drainage, Specialty Conference of the Irrigation and Drainage Division, July 20-22, 1977, Reno, Nev.
15. EFCAUD—Guide for Collection, Analysis, and Use of Urban Stormwater Data, Engineering Foundation Conference, Nov. 28-Dec. 3, 1976, Easton, Md.
16. SCCB—State-of-the-Art Report on Composite or Mixed Steel-Concrete Construction for Buildings, 1977

17. HY77–Hydraulics in the Coastal Zone, Specialty Conference of the Hydraulics Division, August 10-12, 1977, College Station, Texas
18. LE77–The Current State of Knowledge of Lifeline Earthquake Engineering, Specialty Conference of the Technical Council on Lifeline Earthquake Engineering, August 30-31, 1977, Los Angeles, Calif.
19. EFEDS–The Evaluation of Dam Safety, Engineering Foundation Conference, November 28-December 3, 1976, Pacific Grove, Calif.
20. AT77–1977 International Air Transportation Conference, April 3-6, 1977, Washington, D.C.
21. CS77–Coastal Sediments '77, Specialty Conference of the Waterway, Port, Coastal and Ocean Division, November 2-4, 1977, Charleston, S.C.
22. STC–International Colloquium on Stability of Structures Under Static and Dynamic Loads, May 17-19, 1977, Washington, D.C.

Preprints are indicated by the words Preprint and the preprint number and date. They were presented at ASCE National Meetings as follows:

Preprints	*Meeting*	*City*	*Date*
2822-2911	National Convention	Dallas, Texas	April 25-29, 1977
2912-3104	National Convention and Exposition	San Francisco, Calif.	Oct. 17-21, 1977

Journal Abbreviations: Construction (CO), Engineering Mechanics (EM), Environmental Engineering (EE), Geotechnical Engineering (GT), Hydraulics (HY), Irrigation and Drainage (IR), Power (PO), Structural (ST), Surveying and Mapping (SU), Technical Councils (TC), Transportation Engineering (TE), Urban Planning and Development (UP), Waterway, Port, Coastal and Ocean Engineering (WW), Water Resources Planning and Management (WR). Papers sponsored by the Department of Professional Activities appear in "Engineering Issues–Journal of Professional Activities" and are identified by the symbols (EI). Papers appearing in the Transportation Engineering Journal of ASCE include papers approved by the Aerospace, Air Transport, Highway, Pipeline and Urban Transportation Divisions. Papers appearing in the Journal of the Technical Councils of ASCE include papers approved by the Technical Councils on Codes and Standards, Computer Practices, Lifeline Earthquake Engineering, and Research.

The original publication can be found from the index entry as follows: Papers appearing in the Journals (Proceedings) are listed as:

GT9:Sept 77:935:13223

which would indicate a paper published in the Journal of the Geotechnical Engineering Division, September 1977 on page 935, as Proceedings Paper 13223.

The Transactions entry

TR:142:452

indicates that the Digest appears in Transactions, Volume 142, on page 452.

Articles and news items published in CIVIL ENGINEERING are represented as:

CE:May 77:79

Which states that the article appeared in CIVIL ENGINEERING in the May 1977 issue on page 79.

In addition to articles, the following Departments of CIVIL ENGINEERING are indexed: ASCE News, Engineers Notebook, The Readers Write, and The Younger Viewpoint.

Items indexed from Vol. 103 (1977) of the Journals are identified by months. The number of Journals published by a Division in 1977 can be obtained from the number after the last Division abbreviation i.e., GT12, Dec. 1977 identifies the twelfth issue of the Journal of the Geotechnical Engineering Division. The complete list of paper numbers and Journals for 1977 is as follows:

Month	Paper Numbers	CO	EM	EE	EI	GT	HY	IR	PO	ST	SU	TC	TE	UP	WW	WR
Jan.	12649-12701				1	1	1			1			1			
Feb.	12702-12762		1	1		2	2			2					1	
Mar.	12763-12827	1				3	3	1		3			2			
Apr.	12828-12894		2	2	2	4	4			4						
May	12895-12955					5	5			5			3		2	1
June	12956-13023	2	3	3		6	6	2		6						
July	13024-13091				3	7	7		1	7			4	1		
Aug.	13092-13162		4	4		8	8			8					3	
Sept.	13163-13242	3				9	9	3		9	1		5			
Oct.	13243-13306		5	5	4	10	10			10						
Nov.	13307-13372					11	11			11			6		4	2
Dec.	13373-13447	4	6	6		12	12	4		12		1				

This annual index has been composed using magnetic tapes of all 1977 entries. To make future issues more useful, interested persons should submit their suggestions for further improvement to:

Information Services
ASCE
345 East 47th Street
New York, New York 10017

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Areawide Waste Treatment Management of Nonpoint Pollution, Paul E. Barker, Preprint No.2844, Apr 77, 18pp.
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Salt Removal Efficiencies on Land Disposal of Swine Waste, Harold E. Grier, Gian C. Gupta and Suresh C. Tiwari, EE4:Aug 77:551:13117
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Quality Aspects of Agricultural Runoff and Drainage, Sheldon Kelman, Chmn., IR4:Dec 77:475:13439
Water Treatments in Trickle Irrigation Systems, F. S. Nakayama, R. G. Gilbert and D. A. Bucks, Preprint No.2835, Apr 77, 28pp.
2020 Hindsight; Another Fifty Years of Irrigation?, Daniel A. Dreyfus, IR2:June 75:87:11363

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ASCE's Guidelines for Participation in Public Affairs Activities Four Years Later, David Novick, EI4: Oct 76:429:12500
Is There Price Collusion in the Civil Engineering Profession?, Michael N. Goodkind, EI3:July 76: 301:12258
Society's Changing Perception of the Professional and Ethical Conduct of the Civil Engineer: 1776-1976, James P. Kiser, EI1:Jan 77:37:12690

ASCE (Publications)
Bartos Joins CE Editorial Staff, CE:Nov 77:87
Presidential Address, Arthur J. Fox, Jr., EI3:July 76: 315:12263
"Selected Papers by Nathan M. Newmark" (Book Review), Emilio Rosenblueth, CE:Feb 77:34
Toward A More United ASCE, Elmer B. Isaak, EI1: Jan 76:7:11859

ASCE (Public Relations)
California Coastal Commission Accepts Advice from ASCE on Earthquake Design Controversy, Samuel H. Clark, CE:May 76:85
Public Affairs in the Civil Engineer: A Guideline for Accomplishment, Jewell T. Wood, EI3:July 76:339: 12262

ASCE (Salaries and Fees)
Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
Report on Employment, John J.P. Krol, EI2:Apr 77: 141:12855
1975 ASCE Salary Survey, Schaefer J. Dixon, Chmn., EI2:Apr 76:225:12090

ASCE (Sections)
California Coastal Commission Accepts Advice from ASCE on Earthquake Design Controversy, Samuel H. Clark, CE:May 76:85
Engineering Management Seminar—A Continuing Education Experience, Burton A. Grossman and Keith E. McKee, EI1:Jan 77:41:12694
Ethics Spun from Fairy Tales, Jack McMinn, EI2: Apr 77:165:12874
Involvement-Associate Member Forum/Metropolitan Section-Speaks Out, Thomas A. Mulhern, EI4:Oct 77:281:13258
The King's Road: National Historic Civil Engineering Landmark, James H. Schaub, EI3:July 77:217: 13037
Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
Toward A More United ASCE, Elmer B. Isaak, EI1: Jan 76:7:11859

ASCE (Service to Members)
Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
Report on Employment, John J.P. Krol, EI2:Apr 77: 141:12855

ASCE (Staff)
Bartos Joins CE Editorial Staff, CE:Nov 77:87
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Reynolds Marks 35 Years with ASCE, CE:July 77:87
Tavino Named Student Services Manager at ASCE Headquarters, CE:May 77:83

ASCE (Student Chapters)
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Civil Engineering Students: Among The Best And The Brightest, CE:Nov 77:81
Concrete Canoe Racing Stimulates Interest in ASCE Student Chapter, ASCE Student Chapter, CE:Nov 77:44
Involvement-Associate Member Forum/Metropolitan Section-Speaks Out, Thomas A. Mulhern, EI4:Oct 77:281:13258

ASCE (Technical Divisions)
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ASCE (Younger Members)
Involvement-Associate Member Forum/Metropolitan Section-Speaks Out, Thomas A. Mulhern, EI4:Oct 77:281:13258

ASCE State-Of-The-Art of Ce Award
Measurement of In Situ Strength, John H. Schmertmann, GT75:June 75:II-57

Ashes
Design and Construction of Bituminous Fly Ash Disposal Sites, Anthony M. DiGioia, Jr., James F. Meyers and James E. Niece, GT77:June 77:267
Geotechnical Investigations of Power Plant Wastes, Vas Srinivasan, George H. Beckwith and Harris H. Burke, GT77:June 77:169
Geotechnical Practices for Disposal of Solid Waste Materials, Donald H. Gray, Chmn., , 885 pp.
Impoundment of Fly Ash and Slag — A Case Study, James A. Cunningham, Robert G. Lukas and Thomas C. Anderson, GT77:June 77:227
Incinerated Material Used for Construction, Alfred H. Brand, GT77:June 77:348
Incinerator Residue in Asphalt Base Construction, Joseph A. Haynes and William B. Ledbetter, TE5: Sept 77:555:13176
Jarrett Branch Industrial Waste Landfill — A Case History, James H. Poellot and William J. Curtis, GT77:June 77:285

Asphalt Membranes
Impermeable Asphaltic Concrete Pond Liner, R. Dale Hinkle, Jr., CE:Aug 76:56

Asphalt Pavements
Performance of Asphalt Concrete Pavements, Richard D. Barksdale, TE1:Jan 77:55:12695
Porous Friction Course Solves Airport Hydroplaning Problem, Edward A. Johnson and Thomas D. White, CE:Apr 76:90

Asphalt Plants
The Use of the Dryer Drum, Charles R. Foster, Preprint No.2843, Apr 77, 7pp.

Asphalts
Economics of Preventive Highway Maintenance, LaRue E. Delp, CE:Dec 76:43
Incinerator Residue in Asphalt Base Construction, Joseph A. Haynes and William B. Ledbetter, TE5: Sept 77:555:13176
Migration of Subgrade Salts Damages Thin Pavements, Geoffrey E. Blight, TE4:Nov 76:779: 12542
Plastic-Reinforced Asphalt Seepage Barrier, Ronald K. Frobel and C. Brent Cluff, IR3:Sept 76:369: 12430
The Use of the Dryer Drum, Charles R. Foster, Preprint No.2843, Apr 77, 7pp.

Assessments
Impact Assessment of Power Plants, D. Joseph Hagerty and John E. Heer, PO1:Jan 76:81:11823

Astronomy
Arctic Refraction Study, Gerald W. Johnson, SU1: Dec 76:1:12602

Atmospheric Models
Statistical Evaluation of Reaeration Prediction Equations, Linfield C. Brown, EE5:Oct 74:1051: 10849

Atmospheric Refraction
Arctic Refraction Study, Gerald W. Johnson, SU1: Dec 76:1:12602

Attenuation
The Problems of Uncertainties in the Use of Seismic Risk Procedures, Neville C. Donovan and Ann E. Bornstein, Preprint No.2913, Oct 77, 36pp.
Seismic Behavior of Frozen-Thawed Profiles, Sukhmander Singh and Neville C. Donovan, Preprint No.3011, Oct 77, 16pp.
Seismic Ground Motion Parameter Relations, Robin K. McGuire, Preprint No.2913, Oct 77, 20pp.
Study of Attenuation Parameters for California, A. Gurpinar, Haresh C. Shah and J. Savy, EM77:May 77:324

Attitude Measurement
Ride Sharing: Psychological Factors, Kenneth J. Dueker, Brent O. Bair and Irwin P. Levin, TE6: Nov 77:685:13324

Attitude Surveys
Public Acceptance of New Mass Transit System, Roger B. Trent and Cooper N. Redwine, UP1:Aug 76:225:12361
Ride Sharing: Psychological Factors, Kenneth J. Dueker, Brent O. Bair and Irwin P. Levin, TE6: Nov 77:685:13324

Attitudinal Surveys
Attitudinal Variables in Civil Engineering Design, Wilfred W. Recker and George C. Lee, EI1:Jan 76: 55:11862

Australia
Australian Metrication and the Engineer, Carter H. Harrison, Jr., EI2:Apr 76:199:12088
Concrete Replaces Steel in Offshore Coal-Loading Terminal, A. G.F. Eddie, CE:Apr 76:60
The Darwin Cyclone — Valuable Lesson in Structural Design, George R. Walker, Joseph E. Minor and Richard D. Marshall, CE:Dec 75:82
Metrication — An Australian Non-Event, Carter H. Harrison, Jr., CE:Oct 76:51
Results of River Mouth Training on the Clarence Bar, New South Wales, Australia, Cyril D. Floyd and Bruce M. Druery, CE15:July 76:1738
Two-Dimensional Mathematical Water Quality Model, Brian J. Williams and Jon B. Hinwood, EE1:Feb 76:149:11947
Underground Construction Down Under, Alfred M. Petrofsky and James A. Ramsay, Preprint No.2971, Oct 77, 30pp.

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Automation
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Automated Tunnel Round Design: Blasting with Decoupled Charges, R. R. Rollins, George B. Clark and R. B. Hopler, RM16:Sept 75:371
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Automatic Control Strategies for Urban Stormwater, Paul D. Trotta, John W. Labadie and Neil S. Grigg, HY12:Dec 77:1443:13396

Automation in Surveying and Mapping: Present and Future, Morris M. Thompson, SU1:Sept 77:15: 13206
Computer Mapping and Automating Geographic Information: New Tools for the Civil Engineer, Jack Dangermond, Preprint No.2894, Apr 77, 28pp.
Computer Slashes Time and Cost of Structural Design, John J. Brisbane, Jr. and T. Burr Fisher, CE:Sept 77:57
Downtown People Mover (DPM) System Planning, Murthy V.A. Bondada and Robert J. Dietz, Preprint No.3036, Oct 77, 28pp.
Level Top Canals for Semi-Automation of On-Farm Irrigation and Supply Systems, John L. Merriam, IR77:77:I-217
Nearshore Wave Direction Gage, William R. James and Robert J. Hallermeier, WW4:Nov 76:379:12552
Optimal Storage Control in a Combined Sewage System, Bruce H. Bradford, WR1:May 77:1:12903
Philadelphia's Water System Automation Plan, Carmen F. Guarino, Joseph V. Radziul, Alan Hess, Patrick R. Cairo, Robert E. Day and John J. Smith, Jr., EE5:Oct 76:953:12473
Technology Assessment for Downtown People Mover Systems, T. J. McGean, Preprint No.3059, Oct 77, 15pp.

Automobile Occupancy
Effect of Energy Shortage and Land Use on Auto Occupancy, Jahanbakhsh Behnam and Robert E. Beglinger, TE2:May 76:255:12142

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Public Response to Carpooling Programs, Alice E. Kidder, Bruce Morgan and Arthur Saltzman, TE3: Aug 76:571:12340

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Principles of Graphical Gradually Varied Flow Model, Nicholas Kouwen, R. Alexander Harrington and Shully I. Solomon, HY5:May 77:531:12939
Upstream Flood Lowering in Reservoirs, Bob Buehler, HY2:Feb 76:151:11911

Bacteria
Biological Energy Recovery Using Dairy Cow Waste, Gerard M. Patelunas and Raymond W. Regan, EE5:Oct 77:851:13261
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Factors Affecting Nitrification, Melvin R. Hockenbury, Glen T. Daigger and C. P. Leslie Grady, Jr., EE1:Feb 77:9:12713
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Water to Air Bacterial Transfer by Bursting Bubbles, D. Wozniak, M. Kiwak, C. Cahoon and Robert H. Edgerton, EE3:June 76:567:12197
Water Treatments in Trickle Irrigation Systems, F. S. Nakayama, R. G. Gilbert and D. A. Bucks, Preprint No.2835, Apr 77, 28pp.

Bacteriophage
Virus-Coal Sorption Interaction, Pushpavadan P. Oza and Malay Chaudhuri, EE6:Dec 76:1255:12633

Baffles
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How To Overcome These Threats To Civil Engineering?, Wallace L. Chadwick, CE:Oct 77:141

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A Geomorphic Study of the Lower Mississippi River, Brien R. Winkley, Preprint No.2990, Oct 77, 31pp.

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Probable Utilization Level for a Barge Harbor, Martin T. Czerniak and Choule J. Sonu, CE15:July 76:3557
Sinkage and Resistance for Ships in Channels, John S. McNown, WW3:Aug 76:287:12291

Barriers
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Barrier Island Dynamics: Overwash Processes and Eolian Transport, Stephen P. Leatherman, CE15: July 76:1958
Evaluation of a Barrier Against Seawater Intrusion, John S. Angus, HY77:Aug 77:187
Longshore Transport at a Total Littoral Barrier, Richard O. Bruno and Christopher G. Gable, CE15:July 76:1203
Process and Morphology Characteristics of Two Barrier Beaches in the Magdalen Islands, Gulf of St. Lawrence, Canada, E. H. Owens, CE15:July 76: 1975
Status of Dam Safety — Status Report on Public Law 92-367, Samuel H. Miles, EFEDS:Nov 76:3

Barrier Tests
Evaluation of a Barrier Against Seawater Intrusion, John S. Angus, HY77:Aug 77:187

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Elastic-Plastic Torsion of Nonhomogeneous Bars, Carl T. Herakovich and Rafik Y. Itani, EM5:Oct 76:757:12446

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Effects of BART on Urban Development, Michael V. Dyett and Emilio Escudero, Preprint No.3100, Oct 77, 24pp.
Effects of BART on Work Journeys in the Bay Area, Alistair Sherret and Joel Markowitz, Preprint No.3094, Oct 77, 22pp.
Environmental Impacts of BART and People's Responses, Donald L. Graff and Robert L. Knight, Preprint No.3099, Oct 77, 28pp.
The Impact of BART's Construction and Operations on Local Government Policy Decisions, Linda S. Graebner and Tom Higgins, Preprint No.3102, Oct 77, 26pp.
Management of Large Projects — Management of Design — BART Project, David G. Hammond, Preprint No.3041, Oct 77, 19pp.
Professionalism, Ethics and the Public Welfare, Roy W. Anderson, ETH75:May 75:8
The Regional Economic and Fiscal Impacts of BART, Richard Grefe and Angus N. McDonald, Preprint No.3101, Oct 77, 23pp.
Social Impacts of BART Service, David Minkus, Preprint No.3103, Oct 77, 18pp.

Bascule Bridges
Chicago Type Bascule Balancing: A New Technique, Henry Ecale, Graham Brown and Peter Kocsis, TN: ST11:Nov 77:2269:13314

Base Courses
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Soil Moisture Movement by Temperature Gradient, Arved J. Raudkivi and Nguyen Van U'u, GT12:Dec 76:1225:12645

Base Flow
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Base Pressure
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Goals for Education and Research in Construction, Boyd C. Paulson, Jr., CO3:Sept 76:479:12393

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Field Investigation of Sediment Transport Pattern in a Closed System, Tsuguo Sunamura and Kiyoshi Horikawa, CE15:July 76:1240
Tsunami Elevation Predictions from Numerical Models, James R. Houston and Andrew W. Garcia, Preprint No.2996, Oct 77, 26pp.

Bauschinger Effect
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Bayes Theorem
Bayesian Approach to Tile Drain Design, Andre Musy and Lucien Duckstein, IR3:Sept 76:317: 12390
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Los Angeles Harbor and Long Beach Harbor: A Numerical Model for Tidal Circulation, Donald C. Raney, WW77:Mar 77:1-85
Numerical Tidal Model of Chesapeake Bay, Alan Fred Blumberg, HY1:Jan 77:1:12661
Sediment Transportation and Deposition Models for Mobile Bay, Alabama, Gary G. April, Samuel Ng and C. Everett Brett, CE15:July 76:2092
Waves Generated by Horizontal Oscillations in Bays, Y. Keen Lee and Li-San Hwang, WW4:Nov 77:411: 13316

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Barnegat Inlet, Nature Prevails, Lewis A. Caccese and Henry R. Spies, CS77:Nov 77:305
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Beach and Dune Response to Hurricane Eloise of September 1975, T. Y. Chiu, CS77:Nov 77:116

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Beach Erosion at the Up-Drift Coast of a Breakwater Prolonged Obliquely From the Shore: Sendai Port, Norio Tanaka, CS77:Nov 77:1026
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Impact of Yachting Marinas on Beaches, J. P. Lepetit, CE15:July 76:1844
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Erosion Study Methodology for Offshore Nuclear Plants, James Roney, Thomas McKinney and Joseph T. DeAlteris, CS77:Nov 77:867
Experimental Studies of Stresses Within the Breakwater Armor Piece "Dolos", Omar J. Lillevang and Wayne E. Nickola, CE15:July 76: 2519
Field Performance of Permeable Breakwater, John C. Ludwick, Peter Fleischer, Ronald E. Johnson and Gerald L. Shideler, WW4:Nov 75:357:11703
Floating Breakwater Performance, Bruce H. Adee, CE15:July 76:2777
A Generation Challenge: Ludington Pumped Storage, Richard F. Gerkowski and John J. Dellas, Preprint No.2893, Apr 77, 29pp.
Headland Defense of Coasts, Richard Silvester, CE15:July 76:1394
In-Situ Undrained Shear Strength of Two Marine Clays, Demetrious Koutsoftas and Joseph A. Fischer, GT9:Sept 76:989:12431
Laboratory Study of Pervious Core Breakwaters, Hideo Kondo, Satoshi Toma and Kenji Yano, CE15:July 76:2643
Large Scale Model Tests of Placed Stone Breakwaters, Charles K. Sollitt and Donald H. DeBok, CE15:July 76:2572
Local Scour and Current Around a Porous Breakwater, Shintaro Hotta and Nobuo Marui, CE15:July 76:1590
Long Beach Harbor; Environmental Program, Lester A. Hockney, WW77:Mar 77:II-31
Longshore Transport at a Total Littoral Barrier, Richard O. Bruno and Christopher G. Gable, CE15:July 76:1203
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Master Planning at the Port of Long Beach, Gery H. Porter, WW77:Mar 77:II-8
Method of Analyses for Two-Dimensional Water Wave Problems, Takeshi Ijima, Chung Ren Chou and Akinori Yoshida, CE15:July 76:2717
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Response of Rubble Mound Breakwaters to Wave and Seismic Forces, M. Arockiasamy, D. V. Reddy and T. K. Yen, WW77:Mar 77:II-42
Sedimentation Problems at Offshore Dredged Channels, A. A. Kadib, CE15:July 76:1756
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Sediments Impounded by an Offshore Breakwater, Richard O. Bruno, George M. Watts and Christopher G. Gable, CS77:Nov 77:1006
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Brick Masonry

Estimating Masonry Wall and Column Costs, Clayford T. Grimm, CO4:Dec 77:627:13413
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Metal Ties and Anchors for Brick Walls, Clayford T. Grimm, ST4:Apr 76:839:12067

Bricks

Chemical Grouting of Sand for Earthquake Resistance, Edward D. Graf and Edwin G. Zacher, Preprint No.3007, Oct 77, 19pp.
Design for Differential Movement in Brick Walls, Clayford T. Grimm, ST11:Nov 75:2385:11739

Bridge Abutments

Full-Scale Lateral Load Tests of Pile Groups, Jai B. Kim and Robert J. Brungraber, GT1:Jan 76:87: 11849

Bridge Construction

Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286
Erection Strength Adequacy of Long Truss Cantilevers, Jackson L. Durkee and Spiro S. Thomaides, ST1:Jan 77:225:12698
Falsework Eliminated in Bridge Erection, Gene K. Hallock, CE:Nov 76:58
New River Gorge Bridge: World's Longest Steel Arch, Clarence V. Knudsen, CE:Feb 77:53
The Schuylkill River — A Major Crossing, Hertel C. Missimer, Preprint No.2831, Apr 77, 25pp.
Short Span Bridge Superstructural Systems, Hota V.S. GangaRao and Narendra B. Taly, Preprint No.2839, Apr 77, 30pp.
Time-Dependent Stresses in Continuous Precast Bridges, Walter H. Dilger and Amin Ghali, CO1: Mar 76:239:11964

Bridge Decks
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Stress Ribbon Bridge in Freiburg, Germany, Man-Chung Tang, CE:May 76:75

Bridge Failure
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Retrofitting Highway Structures to Increase Seismic Resistance, Oris H. Degenkolb, LE77:Aug 77:97
Why Do Bridges Fail?, David W. Smith, CE:Nov 77: 58

Bridge Failures
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History and Esthetics in Suspension Bridges, David P. Billington, ST8:Aug 77:1655:13143
Railroads, Truss Bridges and the Rise of the Civil Engineer, Donald C. Jackson, CE:Oct 77:97

Bridge Foundations
Effect of Sediment Gradation on Clear Water Scour, Arved J. Raudkivi and Robert Ettema, TN: HY10: Oct 77:1209:13251
Full-Scale Lateral Load Tests of Pile Groups, Jai B. Kim and Robert J. Brungraber, GT1:Jan 76:87: 11849

Bridge Load Rating Signs
How to Evaluate Bridges for Overloads — ASAP, Kenneth R. White and John Minor, Preprint No.2827, Apr 77, 11pp.

Bridge Location
Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286

Bridge Maintenance
George Washington Bridge Redecked with Prefabricated, Prepaved Steel Panels, Eugene J. Fasullo and Daniel M. Hahn, CE:Dec 77:57

Bridges
Model Studies of Multicell Curved Box-Girder Bridges, Mohammad Aslam and William G. Godden, EM3:June 75:207:11366
What Happened at Dallas?, CE:July 77:66

Bridges (Arch)
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History and Esthetics in Concrete Arch Bridges, David P. Billington, ST11:Nov 77:2129:13351
Least Cost Design of Two-Hinged Highway Arch Ribs, Leroy L. Friel, Preprint No.2891, Apr 77, 12pp.
New River Gorge Bridge: World's Longest Steel Arch, Clarence V. Knudsen, CE:Feb 77:53

Bridges (Box Girder)
First Bridge Across the Yukon River, Lawrence Carlson, Roy C.J. Dreyer and Rodney Platzke, CE: Aug 76:47
Model Studies of Multicell Curved Box-Girder Bridges, Mohammad Aslam and William G. Godden, EM3:June 75:207:11366
Model Study of Horizontally Curved Box Girder, Adel R.M. Fam and Carl J. Turkstra, ST5:May 76: 1097:12151
Rio-Niteroi Bridge Features Record Girder Span, Gerald F. Fox and H. James Graham, CE:Apr 76: 86
Shear Lag in Shallow Wide-Flanged Box Girders, Karl Van Dalen and Sanivarapu V. Narasimham, ST10:Oct 76:1969:12449
Strength of Steel Box-Girder Bridges, Patrick J. Dowling, ST9:Sept 75:1929:11550
Structural Response of Curved RC Box-Girder Bridge, Alexander C. Scordelis and Per K. Larsen, ST8:Aug 77:1507:13112
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Bridges (Cable-Stayed)
Analysis of Cable-Stiffened Space Structures, Nicholas F. Morris, ST3:Mar 76:501:11998
Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286
Buckling of Cable-Stayed Girder Bridges, Man-Chung Tang, ST9:Sept 76:1675:12391
Cable-Stayed Versus Classical Suspension Bridge, Walter Podolny, Jr., TE2:May 76:291:12130
Commentary on the Tentative Recommendations for Cable-Stayed Bridge Structures, Walter Podolny, Jr., Chmn., ST5:May 77:941:12934
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Bridges (Concrete)
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Falsework Eliminated in Bridge Erection, Gene K. Hallock, CE:Nov 76:58
History and Esthetics in Concrete Arch Bridges, David P. Billington, ST11:Nov 77:2129:13351
Model Studies of Multicell Curved Box-Girder Bridges, Mohammad Aslam and William G. Godden, EM3:June 75:207:11366

Model Study of New Standard Prestressed Concrete Bridge, Barrington deV. Batchelor, T. Ivan Campbell, Douglas W. McEwen and Paul Csagoly, ST9:Sept 76:1789:12417
Philadelphia Bridge Sparked Growth of Prestressed Concrete in the U.S., CE:Oct 77:118
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Segmental Bridges in Oregon, Louis F. Pierce, TE4: Nov 76:673:12548
Shear Strength of Two-Way Bridge Slabs, Barrington deV. Batchelor and Ian R. Tissington, ST12:Dec 76:2315:12604
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Bridges (Decking)
Alternate Bidding Takes the Guessing Out of Bridge Deck Rehabilitation Programs, Robert J. Trapani, Preprint No.2942, Oct 77, 14pp.
Application of the Minicomputer in Measurement, Analysis, and Control of Structural Testing by BUREC, Carl E. Selander and Lynn R. Carpenter, Preprint No.2950, Oct 77, 13pp.
Behavior of Steel-Deck-Reinforced Slabs, Max L. Porter and Carl E. Ekberg, Jr., ST3:Mar 77:663: 12826
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George Washington Bridge Redecked with Prefabricated, Prepaved Steel Panels, Eugene J. Fasullo and Daniel M. Hahn, CE:Dec 77:57
Response of Suspension Bridges to Storm Winds, Robert H. Scanlan, EM77:May 77:234

Bridges (Girder)
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Fatigue Behavior of Two Flange Details, Kentaro Yamada and Pedro Albrecht, ST4:Apr 77:781: 12875
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Bridges (Highway)
Dynamic Analysis of Horizontally Curved I-Girder Bridges, Swapan Kumar Chaudhuri and Sidney Shore, ST8:Aug 77:1589:13121
Environmentally Induced Bridge Stresses, J. Leroy Hulsey and Jack H. Emanuel, EM77:May 77:490
Evaluation of Load Factor Design of Steel Bridges, Madan Mohan Gupta and Leroy L. Friel, Preprint No.2951, Oct 77, 18pp.
Exterior Girder Design in Highway Bridges, Henry L. Kinnier and Furman W. Barton, Preprint No.2972, Oct 77, 10pp.
Field Impregnation Techniques for Highway Concrete, Wai F. Chen, Harshavardhan C. Mehta, John A. Manson and John W. Vanderhoff, TE3: May 77:355:12904
Least Cost Design of Two-Hinged Highway Arch Ribs, Leroy L. Friel, Preprint No.2891, Apr 77, 12pp.
Service Load and Fatigue Tests on Truss Bridges, Hotten A. Elleby, Wallace W. Sanders, Jr., F. Wayne Klaiber and M. Douglas Reeves, ST12:Dec 76:2285:12625
Short Span Bridge Superstructural Systems, Hota V.S. GangaRao and Narendra B. Taly, Preprint No.2839, Apr 77, 30pp.
Superloads on Highway Bridges in Southern Africa, Michael A.G. Duncan, ST11:Nov 77:2165:13347

Bridges (Lift)
Fifty-Year History of Movable Bridge Construction - Part I, Egbert R. Hardesty, Henry W. Fischer and Richard W. Christie, CO3:Sept 75:511:11565

Bridges (Movable)
Fifty-Year History of Movable Bridge Construction - Part I, Egbert R. Hardesty, Henry W. Fischer and Richard W. Christie, CO3:Sept 75:511:11565

Bridges (Orthotropic)
Bending of Skew Orthotropic Plate Structures, John B. Kennedy and Davalath S.R. Gupta, ST8:Aug 76: 1559:12302
George Washington Bridge Redecked with Prefabricated, Prepaved Steel Panels, Eugene J. Fasullo and Daniel M. Hahn, CE:Dec 77:57
Plastic Analysis of Orthotropic Skew Metallic Decks, John B. Kennedy and Pijush K. Chowdhury, ST3: Mar 77:533:12776

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Biaxial Interaction Exponent for Concrete Columns, Nanjappa Shanmughasundaram, ST12:Dec 77:2295: 13408
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Bridges (Spans)
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Model Experiments for Span-Vehicle Dynamics, James F. Wilson, EM4:Aug 77:701:13160
Short Span Bridge Superstructural Systems, Hota V.S. GangaRao and Narendra B. Taly, Preprint No.2839, Apr 77, 30pp.

Bridges (Steel)
Evaluation of Load Factor Design of Steel Bridges, Madan Mohan Gupta and Leroy L. Friel, Preprint No.2951, Oct 77, 18pp.
Fatigue and Fracture of Bridge Steels, Richard Roberts and George R. Irwin, ST2:Feb 76:337: 11913
First Bridge Across the Yukon River, Lawrence Carlson, Roy C.J. Dreyer and Rodney Platzke, CE: Aug 76:47
New River Gorge Bridge: World's Longest Steel Arch, Clarence V. Knudsen, CE:Feb 77:53
Plastic Analysis of Orthotropic Skew Metallic Decks, John B. Kennedy and Pijush K. Chowdhury, ST3: Mar 77:533:12776
The Schuylkill River — A Major Crossing, Hertel C. Missimer, Preprint No.2831, Apr 77, 25pp.
Strength of Steel Box-Girder Bridges, Patrick J. Dowling, ST9:Sept 75:1929:11550
Stress Cycles for Fatigue Design of Railroad Bridges, Roman Wolchuk and Ronald M. Mayrbaurl, ST1: Jan 76:203:11857

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Analysis Criteria for Curved Bridges, Hiroshi Nakai and Conrad P. Heins, ST7:July 77:1419:13087
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Art in Engineering - The Need for a New Criticism, David P. Billington, PP4:Oct 73:499:10102
Bending of Skew Orthotropic Plate Structures, John B. Kennedy and Davalath S.R. Gupta, ST8:Aug 76: 1559:12302
Bridge Retrofitting — Selection of Critical Bridges in a Road Network, Anatole Longinow, E. Bergmann and James D. Cooper, LE77:Aug 77:83
Buckling of Cable-Stayed Girder Bridges, Man-Chung Tang, ST9:Sept 76:1675:12391
Calculation of Thermal Stresses in Bridge Structures, H. Vaidyanathan, TN: ST4:Apr 77:907:12837
California's Seismic Design Criteria for Bridges, James H. Gates, ST12:Dec 76:2301:12636
Commentary on the Tentative Recommendations for Cable-Stayed Bridge Structures, Walter Podolny, Jr., Chmn., ST5:May 77:941:12934
Disaster Response in Navigational Emergencies, Patrick H. Carigan, Preprint No.2993, Oct 77, 19pp.
Displacements and Losses in Multistage Prestressed Members, Amin Ghali, Romy G. Sisodiya and Gamil S. Tadros, ST11:Nov 74:2307:10968
Dynamic Response Method for Structural Evaluation, Otto C. Guedelhoefer, III, Jack R. Janney and John F. Wiss, Preprint No.3096, Oct 77, 18pp.
Effective Composite Beam Width at Ultimate Load, Conrad P. Heins and Horn Ming Fan, ST11:Nov 76:2163:12538
Exterior Girder Design in Highway Bridges, Henry L. Kinnier and Furman W. Barton, Preprint No.2972, Oct 77, 10pp.
Fatigue and Fracture of Bridge Steels, Richard Roberts and George R. Irwin, ST2:Feb 76:337: 11913
Fatigue Provisions of AASHTO Specifications, Kadir M. Kusmez and Chi C. Tung, ST9:Sept 76:1725: 12385
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Fifty-Year History of Movable Bridge Construction - Part I, Egbert R. Hardesty, Henry W. Fischer and Richard W. Christie, CO3:Sept 75:511:11565
History of the Theory of Bridge Structures, Bogdan O. Kuzmanovic, ST5:May 77:1095:12935
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Inclined Cables Under Load — Design Expressions, Anthony J. Wilson and Robert J. Wheen, ST5:May 77:1061:12922
Laboratory Model Testing for Earthquake Loading, Ray W. Clough and Vitelmo V. Bertero, EM6:Dec 77:1105:13444
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Preliminary Experiences with the ACD/MCD Bridge Inspection System, John R. Barton and Anthony Leone, Preprint No.2904, Apr 77, 36pp.
Response of a Bridge-Like Structure in Turbulence, Robert H. Scanlan and W.-H. Lin, EM77:May 77: 48
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Some Esthetic Considerations in Steel Design, Thomas C. Kavanagh, ST11:Nov 75:2257:11718
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Analytical Study of Suspension Bridge Flutter, Metwally Abo-Hamd and Senol Utku, EM77:May 77:415
Binary Flutter of Suspension Bridge Deck Sections, Yasuharu Nakamura and Takeshi Yoshimura, EM4: Aug 76:685:12327
Cable-Stayed Versus Classical Suspension Bridge, Walter Podolny, Jr., TE2:May 76:291:12130
Disaster Response in Navigational Emergencies, Patrick H. Carigan, Preprint No.2993, Oct 77, 19pp.
Effects of Turbulence on Bridge Model Torsional Stability, Timothy A. Reinhold, Henry W. Tieleman and Francis J. Maher, ST5:May 76:1003:12118
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History and Esthetics in Suspension Bridges, David P. Billington, ST8:Aug 77:1655:13143
Inclined Cables Under Load — Design Expressions, Anthony J. Wilson and Robert J. Wheen, ST5:May 77:1061:12922
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Motion of Suspension Bridge Subject to Wind Loads, Jean-Guy Beliveau, Rimas Vaicaitis and Masanobu Shinozuka, ST6:June 77:1189:12982
Recent Aerodynamic Studies of Long-Span Bridges, Richard H. Gade, Harold R. Bosch and Walter Podolny, Jr., ST7:July 76:1299:12233
Response of a Bridge-Like Structure in Turbulence, Robert H. Scanlan and W.-H. Lin, EM77:May 77: 48
Response of Suspension Bridges to Storm Winds, Robert H. Scanlan, EM77:May 77:234
Simplified Model for Building-Foundation Interaction, Hirokazu Takemiya, TN: EM2:Apr 77: 345:12835
Steel Stress-Ribbon Concept — Will It Save Money?, Robert J. Wheen, CE:May 76:74
Stress Ribbon Bridge in Freiburg, Germany, Man-Chung Tang, CE:May 76:75
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Service Load and Fatigue Tests on Truss Bridges, Hotten A. Elleby, Wallace W. Sanders, Jr., F. Wayne Klaiber and M. Douglas Reeves, ST12:Dec 76:2285:12625
Ultimate Load Test of Truss Bridge Floor System, Wallace W. Sanders, Jr., F. Wayne Klaiber, Hotten A. Elleby and Leonard W. Timm, ST7:July 76:1383:12247
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Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286
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Static Behavior of Wire Rope, George A. Costello and Sunil K. Sinha, EM6:Dec 77:1011:13417
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Structural Grouting for Oroville Dam Coreblock, John E. O'Rourke, GT5:May 77:367:12905

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Chemical Treatment
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Analytical Study of Freeway Reliability, Abishai Polus and Joseph L. Shofer, TE4:Nov 76:857:12570
Chicago Type Bascule Balancing: A New Technique, Henry Ecale, Graham Brown and Peter Kocsis, TN: ST11:Nov 77:2269:13314
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New and Conventional Engineering Uses of Fly Ash, Ramesh C. Joshi, Donald M. Duncan and Howard M. McMaster, TE4:Nov 75:791:11730
New York's Glacial Formation of Varved Silt and Clay, James D. Parsons, GT6:June 76:605:12218
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Review of the Theories for Sand Drains, Frank E. Richart, Jr., GTAW:77:541
Sedimentation-Consolidation Behavior of Phosphatic Clays, Berg Keshian, Jr., Charles C. Ladd and Roy E. Olson, GT77:June 77:188
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Thixotropic Characteristics of Compacted Clays, H. Bolton Seed and Clarence K. Chan, GTAW:77:572
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Clay Soils
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Claystones
A Case History of Expansive Claystone Damage, Richard L. Meehan, Michael T. Dukes and Patrick O. Shires, GT9:Sept 75:933:11590

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Tornadoes: State of Knowledge, Edwin Kessler, Preprint No.2877, Apr 77, 9pp.

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Large Direct Shear Tests for Coal Refuse, Ralph E. Brown and Paul G. Swanson, GT77:June 77:87

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Bibliography on Discharge Measurement Techniques, Leslie J. Hooper, Chmn., HY8:Aug 77:889:13141
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Some Remarks on Computer Modeling of Coastal Flows, Hugo B. Fischer, WW4:Nov 76:395:12520
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Prediction of Nonlinear Seismic Building Behavior — A Survey and Evaluation of Present Methods, Stephen A. Mahin and Vitelmo V. Bertero, Preprint No.3001, Oct 77, 24pp.
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Urban Runoff Control Master Planning, Murray B. McPherson, Preprint No.2825, Apr 77, 19pp.
Urban Runoff Digital Computer Model, Sanguan Phamwon and Yu-Si Fok, HY7:July 77:723:13068
Urban Runoff Pollution and Water Quality Planning, William Whipple, Jr., Preprint No.3091, Oct 77, 25pp.
Washoe Project Formation — Carson-Truckee Water Conservancy District, Edward L. Pine, IR77:July 77:I-414
1976 Big Thompson Flood and Flood Recovery Planning, Larry A. Muller and Patrick F. Mulhern, Preprint No.3105, Oct 77, 27pp.

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Disaster-Caused Increases in Construction Costs, L. Douglas James, Jr., James L. Douglas and D. Earl Jones, Jr., CE:Sept 76:94
Disaster Caused Increases in Unit Repair Cost, Thomas N. Yancey, Jr., L. Douglas James, D. Earl Jones, Jr. and Jeanne Goedert, WR2:Nov 76:265:12564
Disaster Response to 1973 Mississippi River Flood, Robert I. Kaufman, Preprint No.3046, Oct 77, 29pp.
Evaluation Guidelines for Spillway Adequacy (Bureau of Reclamation), Gerald W. Kirkpatrick, EFEDS:Nov 76:395
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Flood Damage Reduction Potential of River Forecast, Harold John Day and Kwang K. Lee, WR1:Apr 76:77:12059
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Peak Discharge Frequency from Rainfall Information, William C. Hughes, HY1:Jan 77:39:12666

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Design and Construction Requirements for Hurricane-Resistant Construction, Herbert S. Saffir, Preprint No.2830, Apr 77, 16pp.
Harbour Inlets on Tidal Estuaries, Hans Vollmers, CE15:July 76:1854
Highway Fill — A Broad-Crested Weir, Beverly M. Johnson, CE:Oct 76:60
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Results of River Mouth Training on the Clarence Bar, New South Wales, Australia, Cyril D. Floyd and Bruce M. Druery, CE15:July 76:1738
Tsunami Inundation Prediction, Charles L. Bretschneider and Pieter G. Wybro, CE15:July 76:1006
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Why Do Bridges Fail?, David W. Smith, CE:Nov 77:58

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Tsunami Elevation Predictions from Numerical Models, James R. Houston and Andrew W. Garcia, Preprint No.2996, Oct 77, 26pp.
Washoe Project Formation — Carson-Truckee Water Conservancy District, Edward L. Pine, IR77:July 77:I-414

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Disaster Reponse to a Flash Flood, Robert L. Berling, Preprint No.2987, Oct 77, 20pp.

Disaster Response to 1973 Mississippi River Flood, Robert I. Kaufman, Preprint No.3046, Oct 77, 29pp.

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Hydrologic Impacts of Land Use Decisions, Lawrence R. Molsather, Leonard J. Kremer and Dennis E. Palmer, Preprint No.2999, Oct 77, 27pp.

Integrated River System Operation in a Major Flood, Alfred J. Cooper and Clifford A. Roberts, PO1:Jan 76:63:11825

Model of Hurricane Tide in Cape Fear Estuary, James E. Overland and Vance A. Myers, WW4: Nov 76:407:12549

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Design Recommendations for Steel Deck Floor Slabs, Max L. Porter and Carl E. Ekberg, Jr., ST11:Nov 76:2121:12528

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Shear-Bond Analysis of Steel-Deck-Reinforced Slabs, Max L. Porter, Carl E. Ekberg, Jr., Lowell F. Greimann and Hotten A. Elleby, ST12:Dec 76: 2255:12611

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"Promised Lands: Subdivisions in Florida's Wetlands," by Leslie Allan, Beryl Kuder and Sarah L. Oakes (Book Review), Philip M. Botch, CE:Aug 77:42
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Effect of Wind and Rain on Surface Reaeration, Robert B. Banks and Francisco Flores Herrera, EE3:June 77:489:13013
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Geotechnical Practices for Disposal of Solid Waste Materials, Donald H. Gray, Chmn., , 885 pp.
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"Promised Lands: Subdivisions in Florida's Wetlands," by Leslie Allan, Beryl Kuder and Sarah L. Oakes (Book Review), Philip M. Botch, CE:Aug 77:42
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Urban Runoff Control Master Planning, Murray B. McPherson, Preprint No.2825, Apr 77, 19pp.
Urban Runoff Pollution and Water Quality Planning, William Whipple, Jr., Preprint No.3091, Oct 77, 25pp.

Urban Sediment Problems: A Statement on Scope, Research, Legislation and Education, Harold P. Guy, Chmn., HY4:Apr 75:329:11256
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Watershed Resources Management Plan, Takashi T. Kamine, Preprint No.2958, Oct 77, 30pp.
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Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286
Free-Form Arch Dam Design System, Walter Stensch and G. Gerry, ST4:Apr 75:795:11222
Model for Layout and Design of Sewer Systems, Larry W. Mays, Harry G. Wenzel, Jr. and Jon C. Liebman, WR2:Nov 76:385:12580

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Live-Load Survey Results for Office Buildings, Charles G. Culver, ST12:Dec 76:2269:12615
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Repetitive Loading Tests on Membrane Enveloped Road Sections During Freeze Thaw, North Smith, Robert Eaton and John Stubstad, Preprint No.3011, Oct 77, 27pp.
Response of Footings on Micaceous, Cohesionless Soils, Jean M.E. Audibert, Nabil F. Ismael and G. Wayne Clough, Preprint No.2983, Oct 77, 21pp.
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Optimum Working Time, Marvin Gates and Amerigo Scarpa, TE6:Nov 77:773:13355
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Landslide Generated Water Wave Model, Donald C. Raney and H. Lee Butler, HY9:Sept 76:1269:12425
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Insuring Wetlands, James R. Dorsey, Preprint No.2952, Oct 77, 23pp.

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A Geomorphic Study of the Lower Mississippi River, Brien R. Winkley, Preprint No.2990, Oct 77, 31pp.
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Minimum Stream Power for Rivers and Deltas, Howard H. Chang and Joseph C. Hill, HY12:Dec 77:1375:13394
A Model of Nutrient Uptake in Marsh Ecosystems, Lawrence A. Burns and R. Bruce Taylor, III, Preprint No.3056, Oct 77, 30pp.
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Practical Design of Earthquake Resistant Steel Reservoirs, Robert W. Miles, LE77:Aug 77:168
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Probable Utilization Level for a Barge Harbor, Martin T. Czerniak and Choule J. Sonu, CE15:July 76:3557
Qualification and Certification of Analysts, Robert E. Nickell, Walter A. Von Riesemann and John S. Ma, Preprint No.2896, Apr 77, 16pp.
Rationalizations of Sections Properties Tables, Niels C. Lind, ST3:Mar 77:649:12812
Reducing Construction Accidents—Top Management's Role, Raymond E. Levitt and Henry W. Parker, CO3:Sept 76:465:12384
Report on Observations of Attendees at the EF Conference on 'Life Span of Structures', Michael N. Salgo, EI1:Jan 76:47:11870
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Systems Design for Air-Supported Structures, Anil K. Kar, Preprint No.2867, Apr 77, 18pp.
Tunnel Instrumentation, H. B. Voort, EFSGS:Oct 76:713
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What Can Other Industries Teach Construction About Worker Productivity, CE:Jan 77:76
1976 Big Thompson Flood and Flood Recovery Planning, Larry A. Muller and Patrick F. Mulhern, Preprint No.3105, Oct 77, 27pp.

Safety Clothing

Considerations in Land Disposal of Hazardous Wastes, Trygve K. Bakkom, EFLA:Sept 76:1

Safety Devices

A Portable Energy Absorbing System for Highway Service Vehicles, John F. Carney, III and Richard J. Sazinski, Preprint No.2964, Oct 77, 25pp.

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Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
Report on Employment, John J.P. Krol, EI2:Apr 77:141:12855
When an Engineer Employee is Wronged, David Allen, CE:Apr 77:78

Salary Surveys

Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
1975 ASCE Salary Survey, Schaefer J. Dixon, Chmn., EI2:Apr 76:225:12090

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Numerical Model for Density Currents in Estuaries, Karsten Fischer, CE15:July 76:3295
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Quality of Water for Irrigation, Robert S. Ayers, IR2: June 77:135:13010
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Quality Considerations for Water Supply Evaluations, David V. MacDonald, Kline P. Barney, Jr. and Richard A. Smith, Preprint No.2855, Apr 77, 19pp.

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Control of Salt-Water Intrusion by Recharge Wells, Abdel-Aziz I. Kashef, IR4:Dec 76:445:12617

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Numerical Model of Stratified Estuary Flows, Donald O. Hodgins, Thomas R. Osborn and Michael C. Quick, WW1:Feb 77:25:12734
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Inlet Changes of the East Frisian Islands, Gunter Luck, CE15:July 76:1938
Morphodynamics of a Wave-Dominated River Mouth, L. D. Wright, CE15:July 76:1721
Offshore Sedimentary Processes and Responses Near Beach Haven — Little Egg Inlets, New Jersey, Thomas McKinney, Joseph T. DeAlteris, Yung Y. Chao, Lloyd Stahl and James Roney, CE15:July 76: 1899
Process and Morphology Characteristics of Two Barrier Beaches in the Magdalen Islands, Gulf of St. Lawrence, Canada, E. H. Owens, CE15:July 76: 1975
Results of River Mouth Training on the Clarence Bar, New South Wales, Australia, Cyril D. Floyd and Bruce M. Druery, CE15:July 76:1738
Sand Transport by Waves, E. W. Bijker, E. van Hijum and P. Vellinga, CE15:July 76:1149
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Foundation Design Parameters for the Fort Union Group Soils, Van A. Silver and Samuel P. Clemence, Preprint No.2984, Oct 77, 24pp.
Foundation Modulus for Mat on Sand, George F. Sowers, Preprint No.2937, Oct 77, 8pp.
Geotechnical Aspects of a Tar Sand Tailings Dyke, Hari K. Mittal and Robert M. Hardy, GT77:June 77:327
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Response of Footings on Micaceous, Cohesionless Soils, Jean M.E. Audibert, Nabil F. Ismael and G. Wayne Clough, Preprint No.2983, Oct 77, 21pp.
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Sandwich Panels
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Analysis of Trussed Core Sandwich Plates, Donald L. Dean, EM77:May 77:467
Nonlinear In-Plane Analysis of Layered Curved Beams, Marcelo Epstein and Peter G. Glockner, EM77:May 77:181
Superplastic Forming of New Sandwich Cores, Charles E.S. Ueng, Preprint No.3029, Oct 77, 18pp.
Thermal Buckling in Sandwich Panel Skins, Cedric Marsh, STC:May 77:481
Thermal Stresses and Deflection of Sandwich Panels, Ken P. Chong, Kjell Oistein Engen and John A. Hartsock, ST1:Jan 77:35:12667
Thermal Stresses in Framed Aluminum Sandwich Panels, Cedric Marsh and Mona Nakhla, Preprint No.3085, Oct 77, 13pp.

Sandwich Structures
Curved Multilayered Element for Axisymmetric Shells, Chesada Kasemset, Yau Kai Cheung and Tara P. Khatua, EM1:Feb 77:139:12730
Least Weight of Superplastically Formed Cores, Charles E.S. Ueng and Tung-lin Liu, EM77:May 77:440
Minimum Reinforcement of Nonuniform Plates, Robert E. Melchers, EM6:Dec 76:943:12618

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Southern California Reservoir Sedimentation, J. Daniel Davis, Preprint No.3017, Oct 77, 25pp.
Statistical Characterization of Urban Pollutants Loading Rates, Rameshwar Singh, Preprint No.2833, Apr 77, 22pp.
Vegetative Buffer Strips for Sediment Retention in Irrigation Runoff, Charles E. Brockway, IR77:July 77:I-236

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Statistical Characterization of Urban Pollutants Loading Rates, Rameshwar Singh, Preprint No.2833, Apr 77, 22pp.

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Interrelationship between Planning and Funding, Mark G. Goode, Jr., TE6:Nov 77:703:13354
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Light Rail Transit in Pittsburgh, Pennsylvania, Theodore C. Hardy, Preprint No.3074, Oct 77, 20pp.
Parametric Analysis of Rapid Transit Feasibility: A Case Study for a Medium-Size Metropolitan Area, Walter Cherwony and Lewis Polin, Preprint No.2919, Oct 77, 25pp.

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Effects of Urbanization on Catchment Response, Rafael L. Bras and Frank E. Perkins, HY3:Mar 75: 451:11196
Guide for Collection, Analysis and Use of Urban Stormwater Data, EFCAUD:Nov 76
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